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ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.
1300 19TH STREET, N.W.
SUITE 600
WASHINGTON,, DC 20036

EXAMINER	
RICHER, AARON M	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/813,280	KIM ET AL.	
	Examiner	Art Unit	
	AARON M. RICHER	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) *8-29 and 36-53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 30-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed November 29, 2010 have been fully considered but they are not persuasive.

2. As to independent claims 1, 4, 6, 30, and 33, applicant argues that Lenchik fails to teach a plurality of sensors corresponding to a particular magnet, stating that even if one assumes a magnet exists in each end of the connector element 903 in fig. 10 of Lenchik, each magnet would correspond to only one Hall effect sensor, the two element 909s in parts 104 and 106 of the flip phone. Examiner notes that the premise of this assumption (a magnet in each end of connector element 903) is faulty. Lenchik describes a magnet affixed to *an* end of a connector element, but nowhere in Lenchik is a magnet described as being in *each* end of a connector element.

3. Applicant cites figs. 11-13 and col. 6, line 25-27 of Lenchik, stating that a magnet is affixed to an end of the connector element 903 and a Hall effect sensor is affixed to fixed element 909, which applicant argues describes one or more magnets corresponding to one Hall effect sensor. Applicant further argues that this understanding of Lenchik is supported by the shape of the magnet in fig. 13, which does not bend.

4. However, examiner notes that this interpretation of Lenchik infers details from the reference which are not explicitly recited in or inherent to Lenchik's disclosure:

Inference 1: The recitation of the magnet affixed to the end of a connector implies that a magnet is affixed to *both* ends of a connector.

Response: Nowhere in Lenchik is a magnet described as affixed to both ends of a connector. Applicant cites non-magnet embodiments in figs. 11 and 12, but it is not seen how these are relevant to the magnet embodiment of fig. 13. Fig. 11 is showing an embodiment that requires physical contact between components. Similarly, fig. 12 is showing an embodiment where a circuit exists between components. Conversely, a Hall effect sensor (such as that in fig. 13) functions without physical contact to a magnet, by measuring changes in a magnetic field. Col. 6, lines 23-30 of Lenchik clearly states "the position sensor comprises *a magnet 1373*" (emphasis added), not multiple magnets. Note that Lenchik does give the option for multiple magnets separately (col. 6, lines 30-31). If applicant were correct in applicant's inference that multiple magnets are *required* in Lenchik, certainly Lenchik would only describe one embodiment including multiple magnets, rather than stating that the position sensor comprises "a magnet", and then separately giving the *option* of “multiple magnets”.

Inference 2: The non-bending shape of the magnet in fig. 13 implies that there are multiple magnets affixed to the connector element, one on each end.

Response: As noted above, Hall effect sensors sense a change in magnetic field. Thus they are not required to touch the actual magnets. There is nothing requiring the magnet to run the entire length of the connector element. A single round magnet could be mounted on one end of the connector, and the Hall effect sensors would detect the change in magnetic field that occurred when the magnet moved, relative to each sensor. Thus, there is no inherent reason for a magnet to be a

particular shape for only one magnet to be used, and as noted above, no portion of Lenchik describes a multiple magnet requirement.

Applicant further argues that one or more magnets interacting with a single sensor is not the same as multiple sensors interacting with a particular magnet, and argues that Lenchik teaches the former rather than the latter. However, as noted in previous actions, fig. 10, which the magnet embodiment in fig. 13 is one embodiment of, clearly shows two fixed element 909s, but only one connector 903. In the case of the Hall effect sensor device (or any other sensor device), Lenchik discloses "The fixed elements 909 *each* contain positional sensor devices" (col. 5, lines 38-40, emphasis added). As noted previously, Lenchik does not state anything about "each" end of a connector having a magnet.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 3, 4, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Lenchik (U.S. Patent 6,658,272).

7. As to claims 1, 4, and 30, Lenchik discloses a device for displaying a picture in a mobile terminal, which comprises:

a camera module for photographing an image signal (fig. 9, element 129; col. 3, lines 41-47);

an image processing section for processing the image signal photographed by the camera module in a display picture size (col. 3, lines 26-40; a display for displaying such images is disclosed and thus an image processing section for the display is inherent);

a direction detecting section comprising at least one magnet fixed within the mobile terminal and a plurality of sensors for detecting the magnet in order to detect the direction in which the mobile terminal is turned and generating a first direction detecting signal, a second direction detecting signal, a third direction detecting signal, and a fourth direction detecting signal (fig. 9, element 909 corresponds to 2 sensors while element 903 corresponds to a magnet; also see fig. 13 and col. 6, lines 24-35; figs. 1-9 show various different directions that would correspond to different signals);

a control section for outputting picture data having an orientation based on the detected direction (col. 3, lines 26-40; the orientation of the display is matched to the orientation of the device);

and a display section for displaying the picture data (fig. 9, element 120);

wherein the plurality of sensors correspond to one particular magnet of the at least one magnets, and the one particular magnet is detected by the plurality of sensors (fig. 9, element 909 corresponds to 2 sensors while element 903 corresponds to a magnet; also see fig. 13 and col. 6, lines 24-35; figs. 1-9 show various different directions that would correspond to different signals).

8. As to claim 3, Lenchik discloses a device wherein said direction detecting section comprises a first magnet fixed within the mobile terminal and a first sensor and a second sensor for detecting the first magnet according to the direction in which the mobile terminal is turned and generating a corresponding direction detecting signal (fig. 9, element 909 corresponds to 2 sensors while element 903 corresponds to a magnet; also see fig. 13 and col. 6, lines 24-35). Lenchik further discloses multiple joints (col. 3, lines 64-67), and so, assuming at least two joints were used, Lenchik also discloses a second magnet and third and fourth sensors for detecting that magnet.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2, 5, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenchik in view of Buxton (U.S. Patent 6,115,025).

11. As to claims 2, 5, and 31, Lenchik discloses a device wherein said control section outputs data in an upright direction (col. 3, lines 26-40; the orientation of the display is matched to the orientation of the device) when the first direction detecting signal is generated, in a direction turned 270 degrees counter-clockwise when the fourth direction detecting signal is generated, in a direction turned 180 degrees when the third direction detecting signal is generated (fig. 1-3 or 5-7 show 0, 270, and 180 directions that would each correspond to a different signal). Though implied, Lenchik does not

explicitly disclose a 90 degree direction. While it appears to examiner that one skilled in the art would understand how to make a device that is capable of reorienting to a 90 degree direction with the Lenchik reference alone, it is also noted that other references teach such a limitation more explicitly. Regarding this, Buxton explicitly teaches that the orientation of a display does not change when a user rotates the display around a circle (col. 2, lines 22-26; col. 3, lines 21-28; col. 4, lines 26-55), which would include a 90 degree counter-clockwise direction. Every time a display is moved, a signal is sent to the computer to change the orientation of the user interface (fig. 6) to match the user's viewing position. This would include reorienting the interface to a 90 degree counter-clockwise orientation if the display is turned in this direction. The motivation for this is to allow a user to read and interact with a display intuitively, rather than forcing a user to interact with an interface differently every time a monitor is rotated (col. 2, lines 2-26). It would have been obvious to one skilled in the art to modify Lenchik to reorient an interface to a 90 degree counterclockwise direction if the display were turned in that direction in order to allow a user to interact with a display intuitively as taught by Buxton.

12. As to claim 32, Lenchik discloses a method wherein said direction detecting section, if composed of first and second magnets and the first sensor, the second sensor, the third sensor and the fourth sensor for detecting the first and second magnets, generates:

the first direction signal thereby displaying the picture data in the upright direction (fig. 1-3 or 5-7 show 0, 270, and 180 directions that would each correspond to a

different signal; col. 3, lines 26-40; the orientation of the display is matched to the orientation of the device);

the third direction signal thereby displaying the picture data in a direction turned 180 degrees (fig. 1-3 or 5-7 show 0, 270, and 180 directions that would each correspond to a different signal; col. 3, lines 26-40; the orientation of the display is matched to the orientation of the device);

the fourth direction signal thereby displaying the picture data in a direction turned 270 degrees counter-clockwise (fig. 1-3 or 5-7 show 0, 270, and 180 directions that would each correspond to a different signal; col. 3, lines 26-40; the orientation of the display is matched to the orientation of the device).

Though implied, Lenchik does not explicitly disclose a 90 degree direction. While it appears to examiner that one skilled in the art would understand how to make a device that is capable of reorienting to a 90 degree direction with the Lenchik reference alone, it is also noted that other references teach such a limitation more explicitly. Regarding this, Buxton explicitly teaches that the orientation of a display does not change when a user rotates the display around a circle (col. 2, lines 22-26; col. 3, lines 21-28; col. 4, lines 26-55), which would include a 90 degree counter-clockwise direction. Every time a display is moved, a signal is sent to the computer to change the orientation of the user interface (fig. 6) to match the user's viewing position. This would include reorienting the interface to a 90 degree counter-clockwise orientation if the display is turned in this direction. The motivation for this is to allow a user to read and interact with a display intuitively, rather than forcing a user to interact with an interface differently

every time a monitor is rotated (col. 2, lines 2-26). It would have been obvious to one skilled in the art to modify Lenchik to reorient an interface to a 90 degree counterclockwise direction if the display were turned in that direction in order to allow a user to interact with a display intuitively as taught by Buxton.

It is further noted that there is no disclosed criticality in applicant's disclosure that would lead one to believe that the particular sensor setup of the claim has advantages over other sensor setups, so even with different magnet/sensor positions, one skilled in the art would expect the invention to work exactly as well as the claimed invention for the task of direction detection. The inclusion of particular sensors detecting particular magnets appears to be a matter of design choice.

13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenchik in view of Yang (U.S. Patent 6,459,606).

14. As to claim 6, Lenchik discloses a direction detecting section comprising at least one magnet fixed within the mobile terminal and a plurality of sensors for detecting the magnet in order to detect the direction in which the mobile terminal is turned and generate a first direction detecting signal, a second direction detecting signal, a third direction detecting signal, and a fourth direction detecting signal; a control section for outputting picture data having an orientation based on the detected direction; and a display section for displaying the picture data as described above in the rejection to claim 1.

Lenchik does not disclose a device which comprises a tuner for receiving a composite television video signal broadcast on a selected channel; a decoder for

decoding the composite video signal to generate an analog video signal and a synchronizing signal; a video processing section for converting the analog video signal into a digital video data, processing the digital video data in a frame size and outputting a frame video signal and user data in the frame. Yang, however, discloses a tuner (fig. 1, element 20), with analog decoder (fig. 1, element 26), that also generates a sync signal (col. 3, lines 46-64). The output of this is converted to digital (fig. 1, element 42) and then displayed (fig. 1, element 46) along with user data (col. 4, lines 5-15; incoming call data for a user is displayed on the screen). This display is clearly limited by its size and therefore reads on a frame video signal in a frame size. The motivation for using this TV receiver in a cellular phone/camera such as the Lenchik invention is to provide a mobile phone user with TV entertainment, eliminate the need for the user to carry another device, and also allow a user to be informed of incoming events (col. 1, lines 16-27; col. 1, line 66-col. 2, line 2). It would have been obvious to one skilled in the art to modify Lenchik to include combination phone/TV receiver circuitry in order to provide TV entertainment but also allow a user to be informed of incoming events as taught by Yang.

15. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenchik in view of Yang and Buxton.

16. As to claim 7, see the rejection to claim 2.

17. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lenchik in view of Berrou (U.S. Publication 2004/0263478).

18. As to claim 33, Lenchik discloses a method for displaying a picture on a mobile terminal which includes a direction detecting section comprising at least one fixed magnet and a plurality of sensors for detecting the magnet, said method comprising the steps of: detecting a direction signal indicating the direction in which the mobile terminal is turned, using a sensor; and outputting and displaying picture data in an orientation based on the detected signal, as described above in the rejection to claim 1.

Lenchik does not disclose the sensor actually contacting the magnet. Berrou, however, discloses detection of a position of a mobile communication device by determining which magnets contact a number of sensors (p. 3, section 0046). The motivation for using contact holes and studs in particular is for the position detection system to double as a mechanical blocking system for stabilization (p. 3, section 0049). It would have been obvious to one skilled in the art to modify Lenchik to have the sensors contact the magnets in order to have the position detection system also stabilize the device as taught by Berrou.

19. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenchik in view of Berrou and further in view of Buxton.

20. As to claim 34, see the rejection to claim 31.

21. As to claim 35, see the rejection to claim 32.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON M. RICHER whose telephone number is (571)272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron M Richer/
Primary Examiner, Art Unit 2628
1/24/11